

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Takashi HASEGAWA

Date: December 19, 2001

Serial No.: Not Known

Group Art Unit: Not Known

Filed: Not Known

Examiner: Not Known

For: METHOD FOR MANUFACTURING NONRECIPROCAL CIRCUIT DEVICE,  
NONRECIPROCAL CIRCUIT DEVICE, AND COMMUNICATION APPARATUS  
INCORPORATING THE SAME

Asst. Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Prior to examination, please amend the application as follows:

**FEE CALCULATION**

Any additional fee required has been calculated as follows:

\_\_\_\_\_ If checked, "Small Entity" status is claimed.

NO. CLAIMS AFTER AMENDMENT	HIGHEST NO. PREVIOUSLY PAID FOR	EXTRA PRESENT	RATE	ADDIT. FEE
TOTAL	MINUS	* =	X (\$9 SE or \$18)	\$
INDEP.	MINUS	** =	X (\$42 SE or \$84)	\$
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM		X	(\$140 SE or \$280)	\$

\* not less than 20 \*\* not less than 3

TOTAL \$

If any additional payment is required, a check which includes the calculated fee of \$ \_\_\_\_\_  
(OFGS Check No. \_\_\_\_\_) is attached.

In the event the actual fee is greater than the payment submitted or is inadvertently not  
enclosed or if any additional fee during the prosecution of this application is not paid, the Patent  
Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

## CONTINGENT EXTENSION REQUEST

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. § 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. § 1.135. The fee under 37 C.F.R. § 1.17 should be charged to our Deposit Account No. 15-0700.

## AMENDMENTS

☒ If checked, amendments to the specification and/or claims are submitted herewith.

### 1. Specification:

Please delete the paragraph at page 2, line 4 to page 2, line 5; paragraph at page 2, line 6 to page 2, line 7; paragraph at page 2, line 8 to page 2, line 10; paragraph at page 5, line 21 to page 6, line 3; paragraph at page 6, line 7 to page 6, line 9; Paragraph at page 8, line 12 to page 8, line 16 and replace such paragraphs pursuant to 37 C.F.R. § 1.121(b)(ii) with the "clean" version attached hereto as Appendix A. Entry is respectfully requested. A version with markings to show the changes made pursuant to 37 C.F.R. § 1.121(b)(iii) is attached hereto as Appendix B.

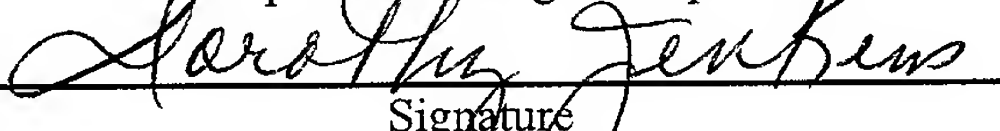
## REMARKS/ARGUMENT

Revisions are being made to clarify the specification. No new matter is included.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as Express Mail #EL157416140US in an envelope addressed to: Asst. Commissioner for Patents, Washington, D.C. 20231, on December 19, 2001.

Dorothy Jenkins

Name of person mailing correspondence



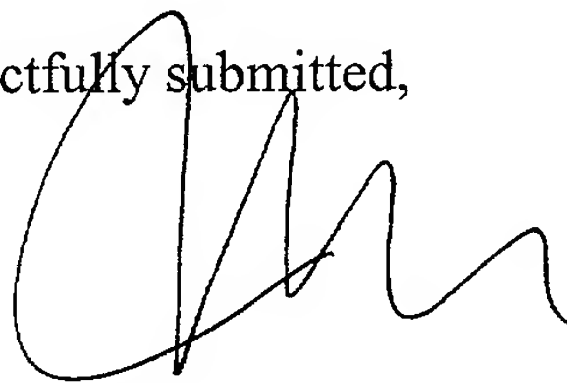
Signature

December 19, 2001

Date of Signature

JAF:gme

Respectfully submitted,



James A. Finder

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**APPENDIX A**  
**“CLEAN” VERSION OF EACH PARAGRAPH/SECTION/CLAIM**  
**37 C.F.R. § 1.121(b)(ii) AND (c)(i)**

**SPECIFICATION:**

**Paragraph at page 2, line 4 to page 2, line 5:**

On the other hand, the method shown in Fig. 13 includes a step of heating a nonreciprocal circuit device in the assembling process to slightly demagnetize (anneal) the magnet.

**Paragraph at page 2, line 6 to page 2, line 7:**

Fig. 13 is a flowchart showing the process of manufacturing the nonreciprocal circuit device including the heating step.

**Paragraph at page 2, line 8 to page 2, line 10:**

In this process, as shown in Fig. 13, the nonreciprocal circuit device is heated after being assembled to perform partial thermal demagnetization of the magnet. This arrangement can prevent the deterioration of characteristics due to thermal demagnetization after the device is manufactured and sold.

**Paragraph at page 5, line 21 to page 6, line 3:**

As shown in Fig. 1, the assembly of all components forming the nonreciprocal circuit device, which include a metal case, is completed in an assembly process, and then the electrical and mechanical junctions of the components are soldered to finish the entire structure. After that, the magnetic force of a magnet is adjusted, and then, a thermosetting resin is applied on an outer surface of the metal case. Next, heat is applied to thermally demagnetize (anneal) the magnet and harden the resin at the same time.

**Paragraph at page 6, line 7 to page 6, line 9:**

In addition, the resin may be applied before adjusting the magnetic force. However, immediately after the application, the resin needs to be temporarily hardened. Otherwise, the resin will flow out and adhere unnecessarily to other parts and to manufacturing machinery.

**APPENDIX B**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**37 C.F.R. § 1.121(b)(iii) AND (c)(ii)**

**SPECIFICATION:**

**Paragraph at page 2, line 4 to page 2, line 5:**

On the other hand, the method shown in Fig. 13 includes a step of heating a nonreciprocal circuit device in the assembling process to slightly demagnetize (anneal) the magnet.

**Paragraph at page 2, line 6 to page 2, line 7:**

Fig. 13 is a flowchart showing the process of manufacturing the nonreciprocal circuit device including [a] the heating step.

**Paragraph at page 2, line 8 to page 2, line 10:**

In this process, as shown in Fig. 13, the nonreciprocal circuit device is heated after being assembled to perform partial thermal demagnetization of [a] the magnet. This arrangement can prevent the deterioration of characteristics due to thermal demagnetization after [being] the device is manufactured and sold.

**Paragraph at page 5, line 21 to page 6, line 3:**

As shown in Fig. 1, the assembly of all components forming the nonreciprocal circuit device, which include a metal case, is completed in an assembly process, and then the electrical and mechanical junctions of the components are soldered to finish the entire structure. After that, the magnetic force of a magnet is adjusted, and then, a thermosetting resin is applied on an outer surface of the metal case. Next, heat is applied to thermally demagnetize [a] (anneal) the magnet and harden the resin at the same time.

**Paragraph at page 6, line 7 to page 6, line 9:**

In addition, the resin may be applied before adjusting the magnetic force. However, immediately after the application, the resin needs to be temporarily hardened. Otherwise, the resin will flow out and adhere [to unnecessary] unnecessarily to other parts and [a manufactured device] to manufacturing machinery.